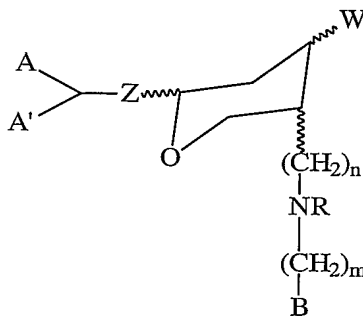


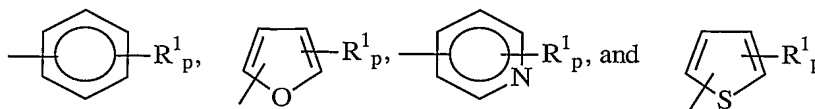
WHAT IS CLAIMED IS:

- 1 1. A 3,6-substituted pyran group-containing
 2 compound having the structural formula:



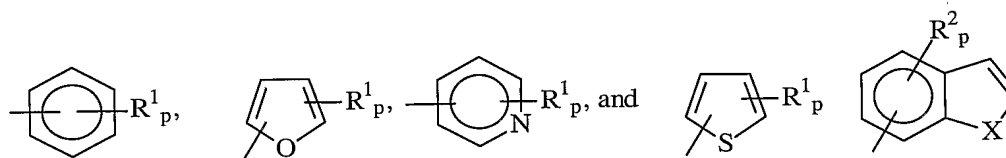
- 3 wherein
 4 A, A', and B are individually selected from the group of optionally substituted C₄-
 5 C₁₄ aryl and heteroaryl wherein heteroatoms of heteroaryl A and/or A' are selected
 6 from the group consisting of O, N, and S;
 7 Z is selected from the group consisting of a chemical bond and -Y-(CH₂)_o- wherein
 8 Y is NH or O and o is 0, 1, 2, 3, or 4;
 9 R is H or C₁₋₈ alkyl;
 10 W is selected from the group consisting of hydrogen and -OH; and
 11 n and m individually are 0, 1, 2, 3, or 4, and wherein any carbon of -(CH₂)_n may
 12 be substituted by OR⁴ wherein R⁴ is C₁₋₈ alkyl, C₂₋₁₈ alkylene, or -COOR⁵ wherein
 13 R⁵ is C₁₋₁₈ alkyl or C₂₋₁₈ alkylene, or a pharmaceutically acceptable derivative or salt
 14 thereof.

- 1 2. The compound of claim 1, wherein at least one of A and A'
 2 are selected from the group consisting of:



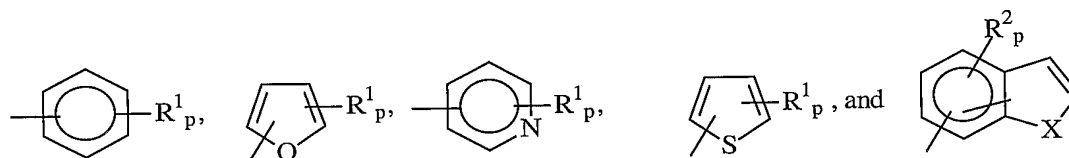
3 where R^1 is selected from the group consisting of C_{1-4} alkyl, C_{2-6} alkenyl, C_{2-6}
 4 optionally halogenated alkynyl, C_{2-6} hydroxyalkynyl, halo, -CN, -COOR, where R
 5 is C_{1-18} alkyl, C_{5-10} cycloalkyl, C_{2-18} alkenyl, -OH, -NO₂, -NH₂, -OR² where R² is
 6 C_{1-8} alkyl, C_{5-6} cycloalkyl, or C_{2-8} alkenyl.

1 3. The compound of claim 1, wherein B is selected from the
 2 group



3 where R^1 is selected from the group consisting of C_{1-4} alkyl, C_{2-6} alkenyl, C_{2-6}
 4 optionally halogenated alkynyl, C_{2-6} hydroxyalkynyl, halo, -CN, -COOR, where R
 5 is C_{1-18} alkyl, C_{5-10} cycloalkyl, C_{2-18} alkenyl, -OH, -NO₂, -NH₂, -OR² where R² is C_{1-8}
 6 alkyl, C_{5-6} cycloalkyl, or C_{2-8} alkenyl; and
 7 wherein R² have the meaning of R¹ and also a 5 or 6 membered heterocycle
 8 containing 1 or more heteroatoms selected from the group consisting of N, O, and
 9 S, and wherein X is N, O, or S.

1 4. The compound of claim 2, wherein B is selected from the
 2 group

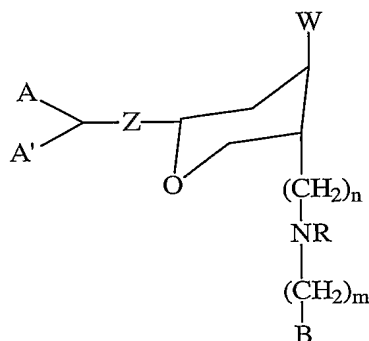


3 where R^1 is selected from the group consisting of C_{1-4} alkyl, C_{2-6} alkenyl, C_{2-6}
 4 optionally halogenated alkynyl, C_{2-6} hydroxyalkynyl, halo, -CN, -COOR, where R
 5 is C_{1-18} alkyl, C_{5-10} cycloalkyl, C_{2-18} alkenyl, -OH, -NO₂, -NH₂, -OR² where R² is C_{1-8}
 6 alkyl, C_{5-6} cycloalkyl, or C_{2-8} alkenyl; and

7 wherein R^2 have the meaning of R^1 and also a 5 or 6 membered heterocycle
8 containing 1 or more heteroatoms selected from the group consisting of N, O, and
9 S, and wherein X is N, O, or S.

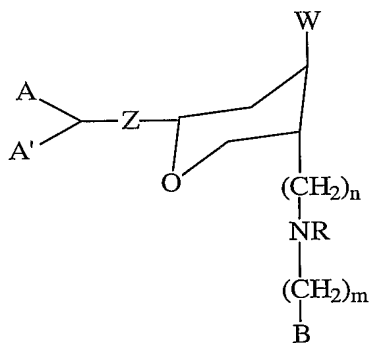
1 5. The compound of claim 3, wherein A and A' are both
2 unsubstituted phenyl.

1 6. The compound of claim 1, having the formula



2

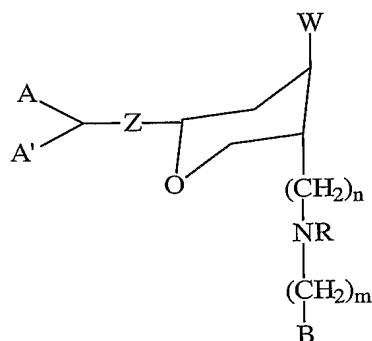
1 7. The compound of claim 2, having the formula



2

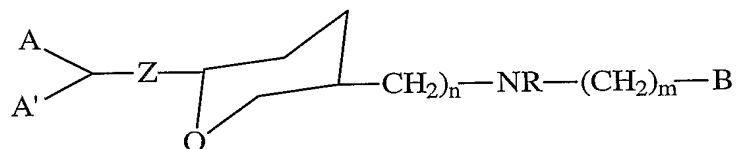
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- 1 8. The compound of claim 3, having the formula

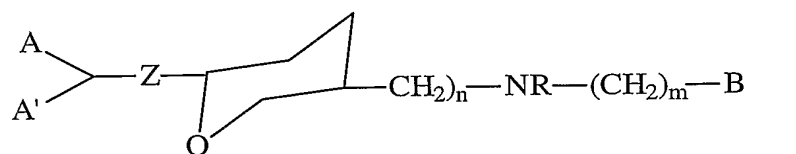


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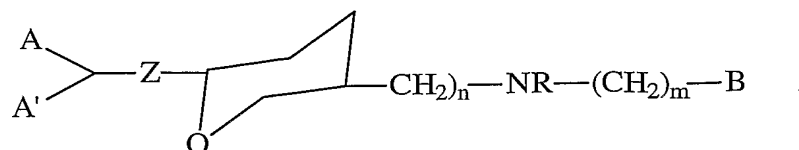
- 1 9. The compound of claim 1, having the formula



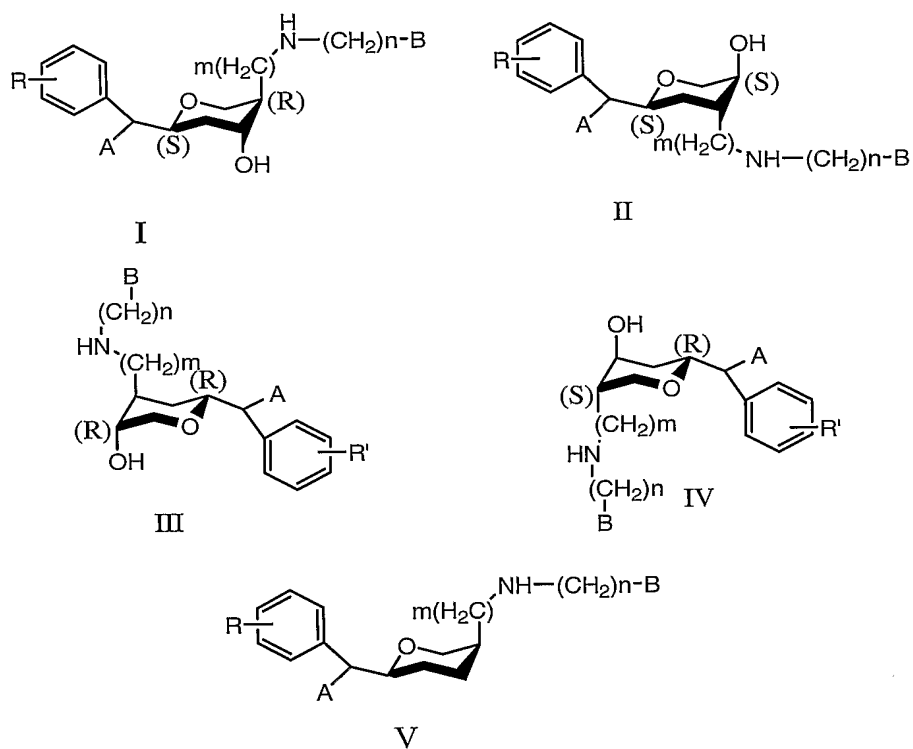
- 1 10. The compound of claim 2, having the formula



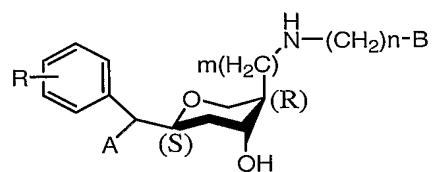
- 1 11. The compound of claim 3, having the formula



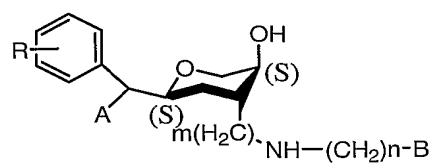
- 1 12. The compound of claim 1, having a formula selected from the
2 group consisting of:



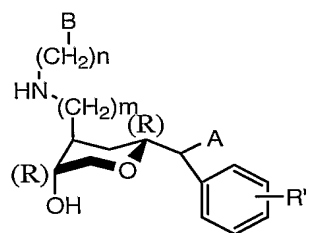
- 1 13. The compound of claim 2, having a formula selected from the
2 group consisting of:



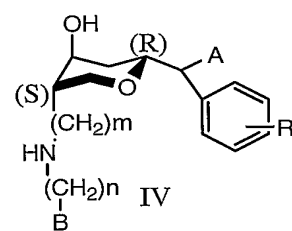
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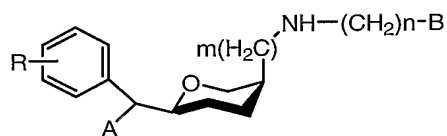
II



III

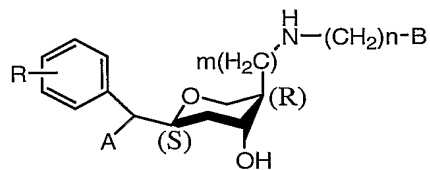


IV

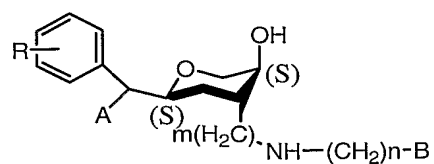


V

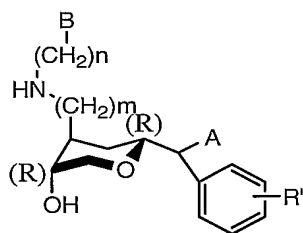
- 1 14. The compound of claim 3, having a formula selected from the
 2 group consisting of:



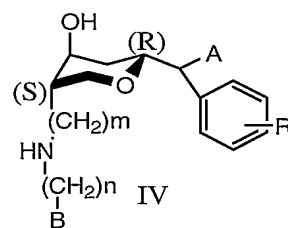
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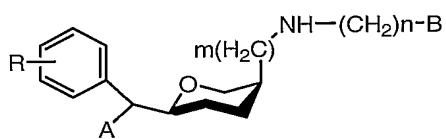
II



III

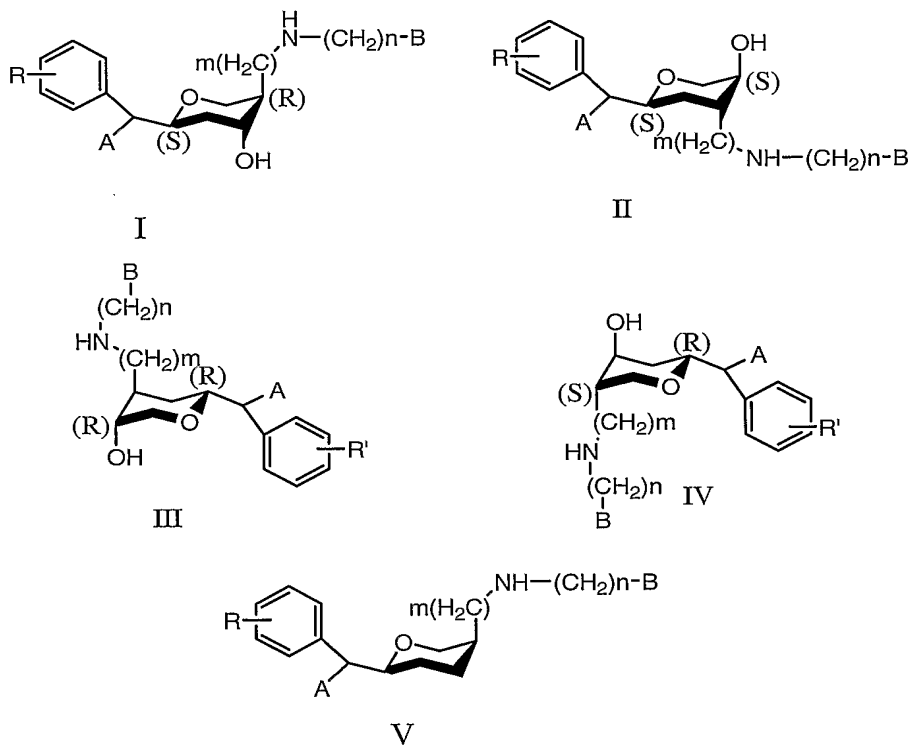


IV



V

1 15. The compound of claim 5, having a formula selected from the
2 group consisting of:



1 16. The compound of claim 1, selected from the group consisting
2 of:

3 Synthesis of *Cis*-(6-benzhydryl-tetrahydropyran-3-yl)-(4-hydroxy-benzyl)-amine (16h);

4 Synthesis of *Cis*-(6-benzhydryl-tetrahydropyran-3-yl)-(1*H*-iodo-5-ylmethyl)-amine (16n);

5 Synthesis of *Cis*-(6-benzhydryl-tetrahydropyran-3-yl)-(4-amino-benzyl)-amine (16o);

6 Synthesis of *Cis*-(6-benzhydryl-tetrahydropyran-3-yl)-(3,4-dichloro-benzyl)-amine (16i);

7 Procedure E. Synthesis of (2S, 4R, 5R)-2-benzhydryl-5-(4-methoxy-benzylamino)-
8 tetrahydropyran-4-ol (-)29a;

9 Synthesis of (2S, 4R, 5R)-2-benzhydryl-5-(4-fluoro-benzylamino)-tetrahydro-pyran-4-ol
10 (-)29b;

11 Synthesis of (2S, 4R, 5R)-2-benzhydryl-5-benzylamino-tetrahydro-pyran-4-ol (-)29d;

- 13 Synthesis of (2S, 4R, 5R)-2-benzhydryl-5-(2,4-dimethoxy-benzylamino)-tetrahydropyran-4-
14 ol (-)-29e;
15
16 Synthesis of (2S, 4R, 5R)-2-benzhydryl-5-(3,5-dimethoxy-benzylamino)-tetrahydropyran-4-
17 ol (-)-29f;
- 18 Procedure H. Synthesis of (2S, 4R, 5R)-2-benzhydryl-5-(4-hydroxy-benzylamino)-
19 tetrahydropyran-4-ol (-)-32a;
- 20 Synthesis of (2S, 4R, 5R)-2-benzhydryl-5-[(1H-indol-5-ylmethyl)-amino]-tetrahydropyran-
21 4-ol (-)-32b;
- 22 Synthesis of (2R, 4S, 5S)-2-benzhydryl-5-(4-hydroxy-benzylamino)-tetrahydro-pyran-4-ol
23 (+)-32a;
- 24 Synthesis of (2R, 4S, 5S)-2-benzhydryl-5-[(1H-indol-5-ylmethyl)-amino]-tetrahydropyran-4-
25 ol (+)-32b;
- 26 Synthesis of *cis*-(3S, 6S)-(6-benzhydryl-tetrahydropyran-3-yl)-(4-hydroxy-benzyl)-amine
27 (-)-37a; and
- 28 Synthesis of *cis*-(3R, 6R)-(6-benzhydryl-tetrahydropyran-3-yl)-(4-hydroxy-benzyl)-
29 amine (+)-37a.

1 17. The compound of claim 1, selected from the group consisting
2 of:

- 3 Procedure E. Synthesis of (2S, 4R, 5R)-2-benzhydryl-5-(4-methoxy-benzylamino)-
4 tetrahydropyran-4-ol (-)-29a;
- 5 Synthesis of (2S, 4R, 5R)-2-benzhydryl-5-(4-fluoro-benzylamino)-tetrahydro-pyran-4-ol
6 (-)-29b;
- 7 Synthesis of (2S, 4R, 5R)-2-benzhydryl-5-benzylamino-tetrahydro-pyran-4-ol (-)-29d;
8
- 9 Synthesis of (2S, 4R, 5R)-2-benzhydryl-5-(2,4-dimethoxy-benzylamino)-tetrahydropyran-4-
10 ol (-)-29e;
- 11 Synthesis of (2S, 4R, 5R)-2-benzhydryl-5-(3,5-dimethoxy-benzylamino)-tetrahydropyran-4-
12 ol (-)-29f;

- 13 Procedure H. Synthesis of (2S, 4R, 5R)-2-benzhydryl-5-(4-hydroxy-benzylamino)-
14 tetrahydropyran-4-ol (-)32a;
- 15 Synthesis of (2S, 4R, 5R)-2-benzhydryl-5-[(1H-indol-5-ylmethyl)-amino]-tetrahydropyran-
16 4-ol (-)32b;
- 17 Synthesis of (2R, 4S, 5S)-2-benzhydryl-5-(4-hydroxy-benzylamino)-tetrahydro-pyran-4-ol
18 (+)32a;
- 19 Synthesis of (2R, 4S, 5S)-2-benzhydryl-5-[(1H-indol-5-ylmethyl)-amino]-
20 tetrahydropyran-4-ol (+)32b;
- 21 Synthesis of *cis*-(3S, 6S)-(6-benzhydryl-tetrahydropyran-3-yl)-(4-hydroxy-benzyl)-amine
22 (-)37a; and
- 23 Synthesis of *cis*-(3R, 6R)-(6-benzhydryl-tetrahydropyran-3-yl)-(4-hydroxy-benzyl)-amine
24 (+)37a.

1 18. A method of reducing monoamine reuptake in a mammalian
2 species, comprising administering a binding amount of a monoamine receptor binder
3 comprising a compound of claim 1.

1 19. A method of reducing monoamine reuptake in a mammalian
2 species, comprising administering a binding amount of a monoamine receptor binder
3 comprising a compound of claim 2.

1 20. A method of reducing monoamine reuptake in a mammalian
2 species, comprising administering a binding amount of a monoamine receptor binder
3 comprising a compound of claim 12.

1 21. A method for the treatment of depression, comprising
2 administering to a patient exhibiting signs of depression, a compound of claim 1 in
3 an amount effective to inhibit reuptake of serotonin at the SERT and norepinephrine
4 at the NET.

1 22. The method of claim 21 wherein the compound exhibits
2 greater inhibition of serotonin and norepinephrine reuptake than of dopamine
3 reuptake.

1 23. A method for the treatment of depression, comprising
2 administering to a patient exhibiting signs of depression, a compound of claim 1 in
3 an amount effective to inhibit norepinephrine reuptake at the NET.

1 24. The method of claim 23 wherein said compound exhibits
2 higher norepinephrine reuptake inhibition than serotonin reuptake inhibition and
3 dopamine reuptake inhibition.